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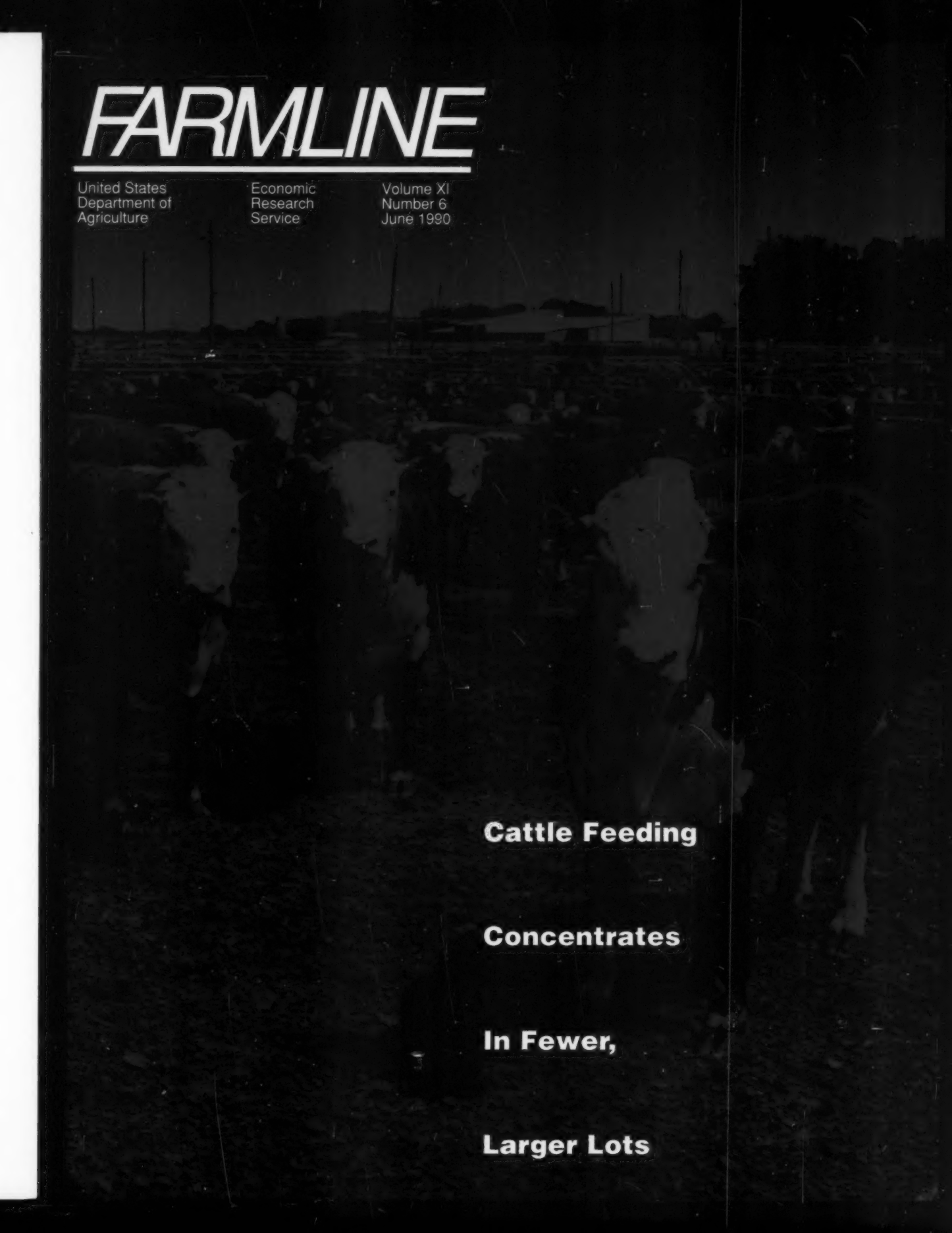

Cattle Feeding Concentrates In Fewer, Larger Lots

TAKE PRIDE IN AMERICA™

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PERSPECTIVES

SYNTHETIC BOVINE SOMATOTROPIN (bST) will not dramatically alter the direction in which the U.S. dairy industry is already moving, according to economists Richard Fallert and Don Blayney of USDA's Economic Research Service.

The industry will most likely continue its trend toward fewer and larger farms, the economists say. Overall production will depend more on the government dairy program and consumer demand than on milk output per cow. The statements by the economists sound a lot different from much of the recent heated debate over bST. Their information comes from two ERS studies conducted during the last 3 years.

Consumers will benefit from the improved efficiency gained by the use of bST if price supports are allowed to adjust to balance production and use, Fallert says. "In the longer run, U.S. dairy farmers will also benefit, since milk and dairy products will be more competitive with other foods." Use of bST will not necessarily worsen the periodic problem of dairy product surpluses, Fallert and Blayney say, if government policies allow milk price supports to adjust to changes in the market.

The dairy industry has adopted, and benefited a great deal from, a number of previous advances in technology. bST, however, is the first advance through biotechnology. "In the last several decades the dairy industry's efficiency has improved immensely," Blayney says. The amount of milk produced per cow per year has more than doubled from 5,842 pounds in 1955 to 14,244 pounds in 1989.

Some opponents of bST claim it is unsafe. But the Food and Drug Administration (FDA) has ruled, after lengthy tests, that milk and meat from bST-treated cows are safe for human consumption. While FDA has not approved bST for commercial use, the agency has authorized the consumption of milk and meat from bST-treated cows used in investigative studies. Some of the milk from test herds has reached the market.

bST is a growth-promoting hormone produced naturally in cattle. The synthetic form should increase milk output per cow by 10-15 percent, research has shown. Under ideal management conditions, the boost could be even more. Synthetic bST is almost identical to the natural form. Milk normally contains small amounts of bST. It is a protein that is destroyed in the digestive tract. bST, real or synthetic, is "species specific" and therefore has no biological effect on humans.

Another point of contention in the bST debate centers on the assertion that it would be more advantageous to large dairy farms and could therefore force small, family farms out of business. ERS research has found that use of bST would require good management but would be economically helpful to dairy farms of any size, if the costs of using the hormone are more than offset by increased revenues from higher milk production. But much information about the economics of bST use is not yet available. For one thing, the price of bST to farmers will not be known until it is approved and marketed commercially. Farmers will have the option of using it or not, as they choose.

New technology for agriculture has been encouraged and supported by the nation and USDA for more than a century. "It would be a dangerous precedent," Fallert and Blayney wrote in a recent paper, "to attempt to halt or dramatically slow technology developments solely for the purpose of protecting small family farms." To adequately assess the value and contribution of a technological development, the entire array of consequences, not just a single objective, should be considered, the economists say.

— Jack Harrison

FARMLINE

AGRICULTURE...NATURAL RESOURCES...RURAL DEVELOPMENT
Practical economic intelligence from USDA's Economic Research Service

FEATURES

Cattle Feeding Concentrates in Fewer, Larger Lots *by Doug Martinez* **2**

More and more of the U.S. cattle feeding business is becoming concentrated in the larger feedlots. It also is localizing in four Great Plains states. Some lots hold as many as 100,000 head of feeder cattle.

Farmers' Share of Food Dollar Holds Steady *by Jack Harrison* **10**

U.S. food prices went up in 1989 by 5.8 percent, the largest increase in 8 years. The farmers' share of the food dollar spent at grocery stores remained at 30 percent for the third straight year.

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'Soybean Belt' Overlaps Corn Country **8**

Soybeans are a relatively new crop in U.S. agriculture, booming to prominence just since the 1940's. *FARMLINE's* series of special reports on major crops continues with this spotlight on the versatile soybean, including a map showing where soybean production is concentrated.

Cattle Feeding Concentrates In Fewer, Larger Lots

Large cattle feedlots are reining in more of the Nation's fed cattle business, and the trend shows no signs of slowing.

"Less than 200 feedlots marketed over half of the fed beef in 1989," says economist Ken Krause of USDA's Economic Research Service. "These feedlots all had capacities of 16,000 head or more."

That's an increase in the large feedlot share of total output of more than 40 percent in less than 30 years. In 1962, the 23 lots with 16,000-head-plus capacity accounted for only 8.3 percent of the 14.6 million fed cattle marketed that year.

"By 1980, fed cattle output had increased to 23.2 million head while large lots had become much more important in the feeding of the increased fed cattle herd," says Krause. "Large lots continued to increase in importance in the 1980's. In 1989, the 198 lots with capacities of 16,000 head and over fed about 51 percent of the nation's output of fed cattle."

'Much of the increase in fed beef has been in the four largest cattle feeding states.'

Moreover, he says, "much of the 10-million-head increase in fed beef over the last three decades has been concentrated in the four largest cattle feeding States and in large lots that have been developed in those States."

New data for 1988 and 1989 from USDA's National Agricultural Statistics Service (NASS) also show the importance of the largest feedlots in the fed cattle industry. The 32 feedlots with capacities of 50,000 head or more marketed 17 percent of the nation's fed cattle in 1989.

But feedlots are not topping off near the 50,000-head capacity level.

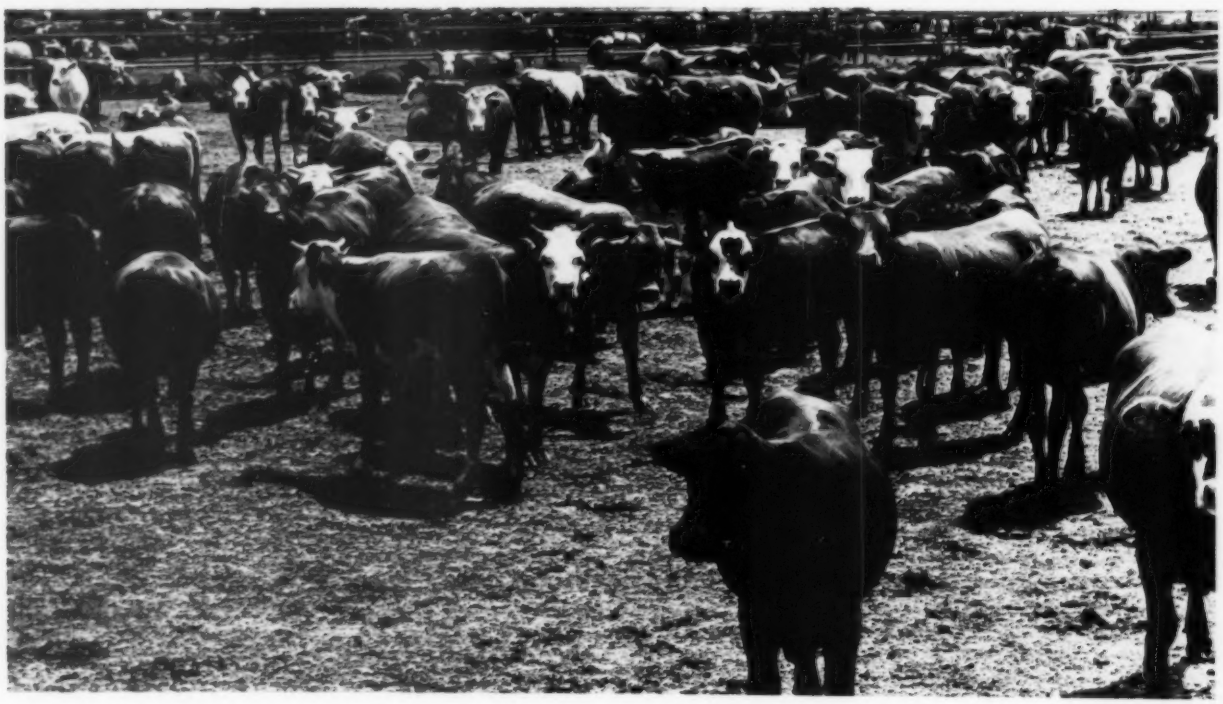
The Largest Lots

"Although NASS confidentiality rules do not permit identification of the largest existing lots," says Krause, "several operators indicate that their lots have 100,000-head, one-time capacity." (Since cattle are fed less than a year, more cattle can be fed annually than the capacity at any one time.)

Since the lots have been operating at this large size for several years, he says, "it appears that economies of size may exist to 100,000 head or more. Each of the largest lots requires strong and diversified management. The financial management and marketing resources may limit the future number of lots in the largest size category."

Instead, he says, there may be an increase in the number of companies owning several smaller lots in different locations but with total capacity of more than 100,000 head.

Data from a private newsletter show that, in 1988, 20 feedlot companies owned 83 lots



with a potential one-time capacity of over 3 million head or enough capacity to feed about one-third of the total fed cattle output, Krause says.

The emergence of feedlot companies that own multiple lots indicates that economies of scale exist in spreading climate, procurement, and product market risks to several areas, he says. In addition, multiple lot ownership apparently provides economies of size in procurement of feeder cattle, custom feeding, financing, purchasing

Juicy Beef Requires Abundance of Grain

The American taste for marbled, juicy beef has fed the growth of large cattle feedlots where range-fed cattle come to be fattened before slaughter.

But it is another fact, usually forgotten, which initially led to the preeminent place of "Choice" grade cuts over leaner beef in our supermarkets and on our dinner plates.

"Fattened cattle became important in the United States not only because people liked the taste of fattened, or marbled, beef but because we had all this corn," says ERS economist Lawrence Duewer. "The cost of grain is also one reason why fattened beef has not developed in other countries with large cattle herds like Australia."

In those countries where dry conditions limit feed grain production, he says, cattle producers have to rely on grass pasture to feed their stock, as Americans did in an earlier time. (Beef cows and young calves are still raised primarily on grass in the United States before the calves are shipped to feedlots for "finishing" with a high concentrate ration.)

A diet of forage (grass and perhaps some hay), however, makes for a decided difference—and to many, a drawback—in the taste of beef, says Duewer.

The difference in the end product comes because grass usually provides a "maintenance" diet. "Cattle get enough to eat to grow and to continue to get bigger, but that covering of fat generally isn't added," says Duewer.

But it's not only faraway nations that primarily produce grass-fed beef, he adds.

"In Puerto Rico, cattle are grass-fed and grown up to 3 years or more before being marketed," he says. "They're big, and grown up, but they're not fat, and they don't have the marbled beef taste."

In fact, he notes, many Puerto Ricans prefer their lean beef and consider marbled beef from the U.S. mainland to be a different product from their local beef, almost an alternative meat like pork or poultry.

The more marbled beef is typically the higher priced beef. The official USDA quality grading system is voluntary and paid for by meatpackers. This system is currently used to grade about two-thirds of the beef slaughtered and eventually moving through consumer channels.

Prime and Choice are the two grades with the most marbling. The small amount of beef graded Prime usually ends up in restaurants. Choice is the most frequent beef grade, representing more than 85 percent of beef graded in recent years.

Cholesterol and saturated fat concerns, though, have encouraged a change in grade nomenclature and in the amount of beef receiving this new grade designation.

In 1987, USDA changed the name of the grade Good to Select. This was done, says Duewer, to help the beef industry identify leaner beef and to provide consumers with a less marbled but graded beef product.

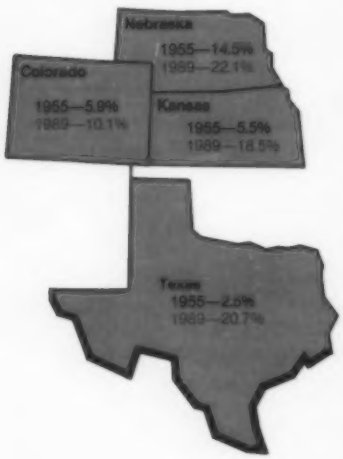
Although the change has increased the amount of beef graded Select—now 10 percent or more of the total amount of beef graded—it has not reduced the amount of beef graded, sold, and eaten as Choice.

What is happening, Duewer says, is that the total amount of beef being graded is going up. Before 1987, most Select (or Good at that time) was sold as ungraded "no-roll" beef (carcasses without an official grade stamp rolled onto them).

In other words, Duewer says, more Americans are now able to choose between Select and Choice beef because of the grade name change. They are able to choose less marbled beef if they desire, but they are still eating as much highly marbled beef as before.

Four States Dominate the Cattle Feedlot Business, Marketing More Than 70% of All Fed Cattle

Percentages of all fed cattle marketed in the United States



feed, and other inputs as well as in selling finished cattle.

Since NASS began reporting on feedlot size in 1962, the cattle industry itself has been undergoing major structural changes.

"Fed cattle numbers, for example, have increased by more than 50 percent," says Krause. "But there have been other changes in addition to the emerging importance of large feedlots and feedlot companies."

Growing Concentration

There has been a significant decrease in the number of lots of under 1,000 head, which are usually associated with family-size, multi-enterprise farmers. At the same time, the fed cattle industry has been shifting to, and concentrating in, four states.

"In general, the location shift has been to Colorado, Kansas, Nebraska, and Texas, where over 71 percent of the cattle were finished in 1989," says Krause. "These four states finished only 28.5 percent of the fed cattle in 1962."

The decrease in small feedlots (those under 1,000-head capacity) occurred mainly in Corn Belt states such as Iowa. Only about one-fourth as many small feedlots were in operation in 1989 as in 1962. This represented a loss of 117,000 feedlots. Iowa had some 50,000 lots in 1962 (most of them small) that fed about 18 percent of the nation's beef. By 1989, the State was down to about 16,000 feedlots, feeding just 8 percent of the Nation's beef cattle.

"While the number and importance of small lots has decreased over the past three

Feedlots Changing to Stay Competitive

Beef's battle with poultry and other foods for a share of the consumer food dollar may be contributing to the dominance of four states—Texas, Kansas, Nebraska, and Colorado—in the cattle feedlot business.

"The cattle beef industry has and will continue to receive substantial competition for a declining proportion of the consumer budget," says ERS economist Ken Krause. "Thus, changes in location and lot size appear necessary for the industry to be competitive at current output levels."

With greater concern over competition, feedlot companies are finding good economic reasons for concentrating in four Plains states.

New technological developments in these states, in such areas as irrigation and improved crops, have substantially increased the output of high-energy feed for cattle finishing. In addition, the proximity to increasing supplies of feeder cattle and the development of new efficient slaughter plants in the four states—along with refrigerated transportation improvements and deregulation of transportation—also helped to increase output in these states.

An even better bottom line reason—from the standpoint of agribusiness companies—may have come from new laws.

"Enactment of restrictive statutes on corporate farming in the mid to late 1970's in some states likely contributed to the loss of cattle feeding operations in those states and to increases in other states," says Krause. "Iowa, Minnesota, South Dakota, and Wisconsin each adopted corporate farming restrictions in the 1970's."

Texas showed the greatest increase from 1955 to 1987 in fed cattle marketed per year (about 5 million more head), followed by Kansas (an increase of about 4.5 million head), Nebraska (3.6 million more head), and Colorado (1.7 million more head).

These four states eclipsed the former leaders in fed cattle marketed annually. In 1970, for example, Iowa led all other states with a 4.6 million peak. From 1955 to 1965, Illinois and California were among the top four states in number of fed cattle marketed.

"These three states showed steady declines from their peak years, while Texas, Kansas, Colorado, and Nebraska generally showed steady increases throughout the 32-year period," says Krause. "Nebraska, in fact, was the only state that was in the top four in both 1955 and 1987. Nebraska was also the top cattle feeding state in 1988 and 1989."

Texas was a new top four entrant in 1980 and continued as number one in 1987. Kansas and Colorado were in the second four in 1955 and moved to the top four in 1987. Illinois and Missouri moved out of the top eight between 1955 and 1980 and were replaced by Texas and Oklahoma.

These state shifts were accompanied by significant size changes in feedlots.

"The major national feedlot size development over the past 25 years was the construction and successful operation of large, over-16,000-head lots, and very large lots of up to 100,000-head capacity," says Krause.

The number of cattle feedlots decreased 74 percent from 164,000 in 1962 to 42,000 in 1987 in the 13 cattle feeding states. Lots of under 1,000-head capacity declined by 73 percent, while lots of 1,000-head-and-more capacity increased by 35 percent. In addition to the top four states, states with sizeable feedlot numbers include Oklahoma, Idaho, South Dakota, Washington, Arizona, Minnesota, Iowa, Illinois, and California.

In the now-dominant states, says Krause, "the number of lots in the two largest size categories (16,000-31,999 and 32,000 and over head) more than doubled in Kansas between 1962 and 1987 and increased by about 80 percent in Nebraska and Texas and by about 50 percent in Colorado."

Furthermore, feedlots in these two largest size categories accounted for about 60 percent of the Texas marketings in 1970 and more than 82 percent in 1987, despite the fact that there were no feedlots of this size in Texas in 1962. The largest lots accounted for 60 percent of the fed cattle marketings in Kansas in 1987, 80 percent in Oklahoma, and about 60 percent in Colorado.

decades," says Krause, "they still accounted for over 16 percent of the fed beef in 1989 and can be expected to remain large in number even if they account for only about 10 to 15 percent of the fed beef in a few years."

He notes that many crop farmers by tradition continue to feed a few head in the winter months.

"For others that approach the 1,000 head level and more, cattle feeding provides an important use for labor and, when well managed, an important source of farm income," says Krause. □

[Based primarily on information provided by economists Ken Krause and Lawrence Duewer of the Commodity Economics Division, Economic Research Service.]

1990 Reports Calendar

July-December

Titles of Situation-Outlook and other periodic reports issued by the Economic Research Service are printed in color. Summaries of reports are released at 3 p.m. ET on the dates shown. Copies of complete reports are due off press about a week later. To request subscription information on any of these reports, write USDA/ERS, P.O. Box 1608, Rockville, MD 20849-1608, or call 1-800-999-6779.

The ***World Agricultural Supply and Demand Estimates*** *reports, issued by the World Agricultural Outlook Board, are also*

JULY

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
2	3 *Egg Products* *Farm Production Expenditures, 1989-Preliminary*	4	5	6 *Celery* *Dairy Products* *Poultry Slaughter*
9	10 *Noncitrus Fruits & Nuts-Midyear Supplement*	11	12 *World Agricultural Supply & Demand* *Crop Production*	13 *Livestock & Poultry* *Milk Production* *Turkey Hatchery*
16	17 *China*	18 *Vegetables*	19 *Dairy* *U.S. Agricultural Trade Update*	20 *Agricultural Outlook* *Livestock & Poultry Update* *Catfish* *Cattle on Feed* *Cold Storage* *Livestock Slaughter*
23 *Western Europe* *Mink*	24	25 *Rice Yearbook* *Eggs, Chickens, & Turkeys*	26 *Oil Crops Yearbook*	27 *Nat'l. Food Review* *Cattle* *Peanut Stocks & Processing*
30 *Developing Economies* *Farm Numbers & Land in Farms*	31 *Agricultural Prices* *Catfish Production*			

AUGUST

MONDAY	TUESDAY	WEDNESDAY
		1 *Fruit & Tree Nuts Yearbook* *Egg Produc*
6	7 *Celery*	8
13 *Farm Labor* *Turkey Hatchery*	14	15 *Livestock & Poultry* *Milk Prcductio*
20 *Wheat* *Mushrooms* *Sugar Market Statistics*	21 *Vegetables & Specialties* *U.S. Agricultural Trade Update* *Catfish* *Cranberries*	22
27 *Dairy Yearbook*	28 *Exports*	29 *Agricultural Income & Finance* *Peanut Stocks & Processin*

OCTOBER

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
1	2 *Egg Products*	3 *Poultry Slaughter*	4	5 *Celery* *Dairy Products*
8	9	10 *Vegetables*	11 *World Agricultural Supply & Demand* *Crop Production*	12
15 *Turkey Hatchery*	16 *Milk Production*	17 *Agricultural Resources*[1]	18	19 *Agricultural Outlook* *Catfish*
22 *Dairy* *Livestock & Poultry Update* *U.S. Agricultural Trade Update* *Cattle on Feed* *Cold Storage* *Livestock Slaughter*	23	24 *Rice*	25 *Oil Crops* *Eggs, Chickens, & Turkeys*	26 *Nat'l. Food Review*
29	30 *Peanut Stocks & Processing*	31 *Agricultural Prices* *Rice Stocks*		

NOVEMBER

MONDAY	TUESDAY	WEDNESDAY
5	6 *Dairy Products*	7 *Celery*
12	13 *Farm Labor*	14 *Livestock & Poultry* *Turkey Hatche*
19 *Wheat* *Catfish* *Cattle on Feed*	20 *Agricultural Outlook Feed* *U.S. Agricultural Trade Update* *Sugar Market Statistics*	21
26 *Livestock & Poultry Update* *Cold Storage* *Eggs, Chickens, & Turkeys* *Livestock Slaughter*	27 *Exports* *OUTLOOK CONFERENCE*	28 *OUTLOOK CONFERENC* *Peanut Stock & Processin*

[1]The Agricultural Resources report focuses on Cropland, Water, and Conservation September 21; and Inputs October 17.

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SEPTEMBER

THURSDAY	FRIDAY
2 Farm Production Expenditures, 1989-Final	3 Dairy Products Poultry Slaughter
9 World Agricultural Supply & Demand Crop Production	10 Vegetables
16	17 Agricultural Outlook Cattle on Feed
23 Feed Eggs, Chickens, & Turkeys	24 Livestock & Poultry Update Cold Storage Hazelnut (Filbert) Production Livestock Slaughter
30 Rice Stocks	31 Cotton & Wool Yearbook Agricultural Prices

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
3	4	5 Egg Products Walnut Production	6 Dairy Products Poultry Slaughter	7 Celery
10 Vegetables	11	12 World Agricultural Supply & Demand Crop Production	13 Fruit & Tree Nuts Turkey Hatchery	14 Sugar & Sweeteners Milk Production
17	18 Tobacco	19 Cattle on Feed	20 Agricultural Outlook U.S. Agricultural Trade Update Catfish	21 Livestock & Poultry Update Agricultural Resources' Cold Storage Livestock Slaughter
24 World Agriculture Hop Stocks	25 Citrus Fruits	26 Aquaculture Eggs, Chickens, & Turkeys Potatoes	27 Grain Stocks Peanut Stocks & Processing	28 Agricultural Prices Hogs and Pigs Trout Production

DECEMBER

THURSDAY	FRIDAY
1	2 Egg Products Poultry Slaughter
8 World Agricultural Supply & Demand Crop Production	9 Vegetables & Specialties Yearbook
15 Fruit & Tree Nuts	16 Milk Production
22	23
29 OUTLOOK CONFERENCE	30 Cotton & Wool Agricultural Prices

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
3 World Agriculture Egg Products	4 Poultry Slaughter	5	6 Celery Dairy Products	7
10	11 World Agricultural Supply & Demand Crop Production	12 Agricultural Income & Finance	13 Sugar & Sweeteners Turkey Hatchery	14 Milk Production Potato Stocks Vegetables
17 Tobacco Yearbook	18	19 Agricultural Outlook Catfish Cattle on Feed	20 U.S. Agricultural Trade Update	21 Livestock & Poultry Update Cold Storage Eggs, Chickens, & Turkeys Livestock Slaughter
24	25	26	27	28 Peanut Stocks & Processing
31 Agricultural Prices				

'Soybean Belt' Shares Acreage With Corn

Soybeans are grown primarily in the Corn Belt, a region that could also be called the "Soybean Belt."

Soybeans are an important cash crop in the United States, second only to corn in value. In 1987, the value of soybeans was over $11.4 billion, while corn was $14.1 billion. Soybeans were planted on 58.2 million acres and corn on 66.2 million.

Iowa, Illinois and Minnesota generally have been the top soybean states. In 1987 these three states accounted for 44 percent of total U.S. soybean production.

U.S. farmers produced 1.9 billion bushels of soybeans in 1987. This production level was realized again in 1989, after a drop to 1.5 billion in 1988 because of the drought.

The all-time high occurred in 1979 when 2.3 billion bushels were produced. Other records set that year were 71.4 million acres planted and 70.3 million acres harvested.

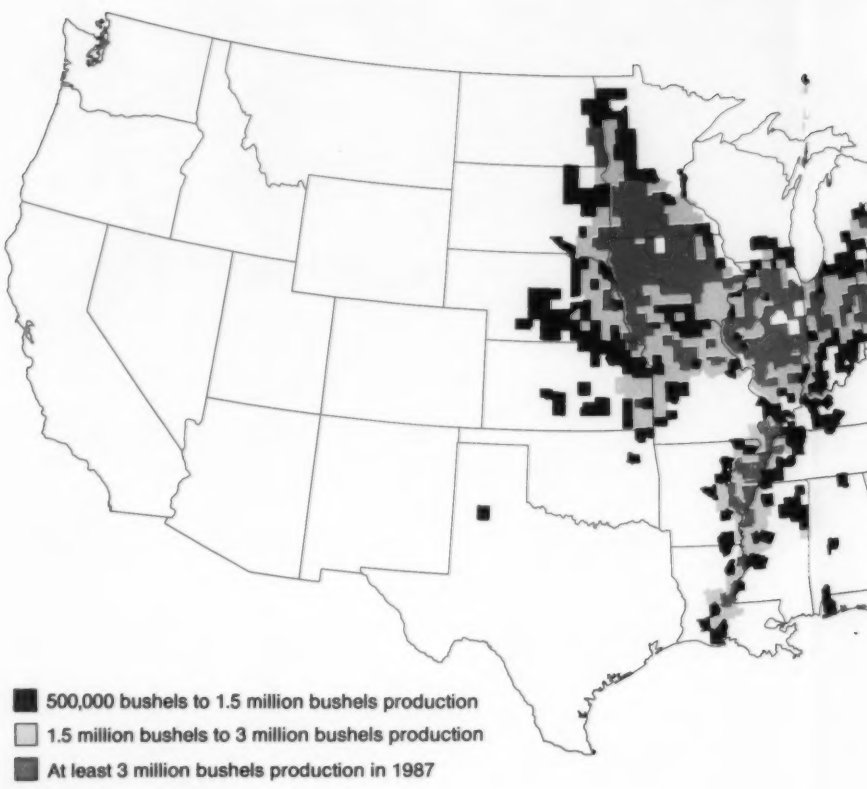
Acreage trended upward from 15.6 million in 1950. A number of factors were responsible for the expansion, according to economist James Schaub of USDA's Economic Research Service. They included growing world demand, rising incomes, increasing use of soybeans in livestock feeds, and changing consumer tastes.

Though the soybean picture has been generally bright, "11 million soybean acres have been lost since 1979," Schaub says. The major factors contributing to this are the Conservation Reserve Program, acreage planted to other crops, and land that has been left idle. Most of the acreage decline occurred in the South.

Soybeans have been grown in China and other Asian countries for 5,000 years. They were introduced in the United States during the 1800s, but used primarily as hay up until World War II. After the war, soybean production increased 300 percent nationally and 350 percent internationally in a 25-year period. The United States is the dominant soybean producing country. About 30 to 40 percent of U.S. soybeans are exported.

Because of the drought, the United States has lost some of its export market. "We are in an export recovery phase now," says Schaub. Brazil, Argentina and the European Community are our largest oilseed competitors. Brazil and Argentina produce more soybeans, while the EC produces primarily sunflower and rapeseed.

U.S. Soybean Producing Counties


500,000 bushels to 1.5 million bushels production
1.5 million bushels to 3 million bushels production
At least 3 million bushels production in 1987

In 1987, this country exported 40 percent of its soybean production. Exports declined to 34 percent in 1988 and may slip to 32 percent for the 1989 crop, Schaub says.

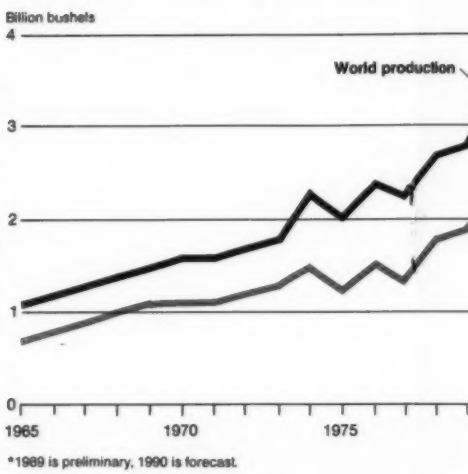
The drought also left soybean stocks at their lowest in a decade, but domestically, use did not decline much.

Producers received higher prices because of the drought. Prices averaged $5.88 per bushel for the 1987 crop and $7.42 per bushel for the 1988 crop. The 1989 crop price is forecast to average $5.55 to $5.60 per bushel.

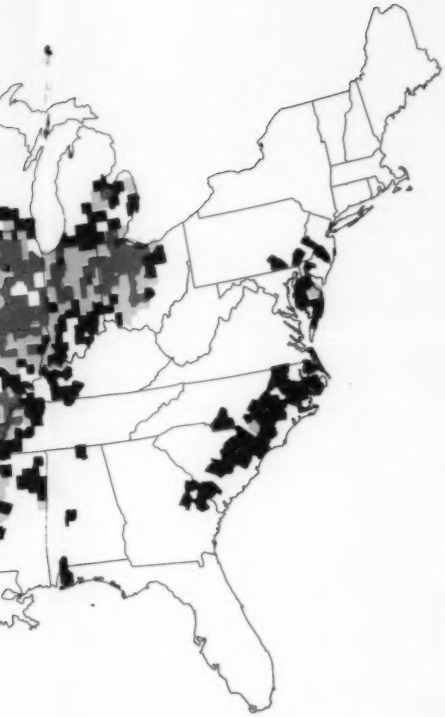
Soybeans are a versatile crop, as evidenced by their use in industrial products, including construction materials such as wallboard and plywood. They are also used in pharmaceuticals, yeast, soap, pesticides, and plastic products.

—Martha Evans

Only in the Last 2 Years Has U.S. Soybean Produc
Fallen Below 50 Percent of World Production



*1989 is preliminary, 1990 is forecast.



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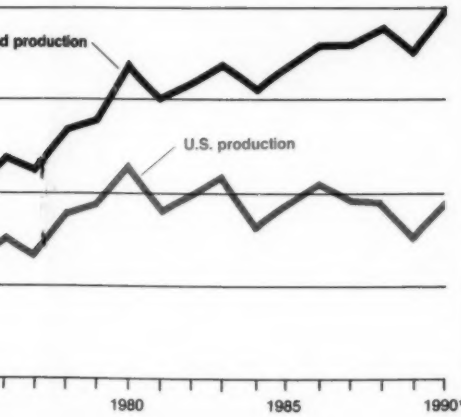


Top Ten States In Soybean Yields, Bushels/Acre, 1989

Illinois	40.0
Iowa	39.0
Indiana	37.0
Minnesota	37.0
Wisconsin	37.0
Michigan	36.0
Pennsylvania	34.0
Nebraska	32.0
New Jersey	32.0
Ohio/Virginia	32.0
U.S. average	**32.4**

Source: National Agricultural Statistics Service, USDA

Top Ten Soybean Producing States

(thousands of bushels)

1987		1988		1989	
Iowa	343,650	Iowa	251,100	Illinois	354,000
Illinois	330,600	Illinois	234,900	Iowa	322,920
Minnesota	181,350	Minnesota	124,800	Minnesota	185,000
Indiana	174,000	Indiana	115,500	Indiana	168,350
Missouri	157,760	Missouri	112,095	Ohio	127,360
Ohio	144,300	Ohio	99,900	Missouri	123,975
Nebraska	83,425	Arkansas	83,200	Nebraska	81,920
Arkansas	74,750	Nebraska	70,800	Arkansas	76,800
Kansas	67,520	Louisiana	56,550	Kansas	49,950
Mississippi	47,775	Mississippi	49,500	South Dakota	48,880
U.S. total	**1,937,722**	**U.S. total**	**1,548,841**	**U.S. total**	**1,926,806**

Source: National Agricultural Statistics Service, USDA

Farmers' Share Of Food Dollar Holds Steady

The increase in U.S. food prices in 1989 was the largest in 8 years, partly because of carryover effects of the 1988 drought.

The farmers' share of the food dollar spent at grocery stores remained at 30 percent for the third straight year.

Food prices, as measured by the Consumer Price Index (CPI), rose 5.8 percent in 1989. The farm value (what farmers receive) of food increased 6.9 percent, only the second time in the decade that farm prices rose as much as retail prices.

The farm-to-retail price spread (the difference between farm and retail prices) widened by 7 percent in 1989. This was more than the previous year's rise and more than the average for the 1980's.

Food prices rose 5.8 percent in 1989, with grocery store items increasing more than restaurant meals.

Factors causing the widening of the price spread included higher prices for most inputs (such as packaging) used in the food industry, increased spending on advertising and promotion of food products, and higher labor costs.

Consumer demand, an important factor in food prices, was bolstered last year by a 3-percent increase in real disposable income.

"The drought reduced commodity supplies," says economist Denis Dunham of USDA's Economic Research Service, "and raised costs of several food ingredients and livestock feed components."

Prices of food sold in grocery stores rose by 6.5 percent in 1989 while restaurant meal prices went up 4.6 percent. "Rising costs of raw products have more effect on prices in grocery stores than in restaurants," Dunham says.

It was the third year in the last 4 that the increase in food prices was more than the increase in the index of all consumer products and services. The all-items price rise was 4.8 percent in 1989. The price of housing, the largest component of the CPI, went up 3.8 percent in 1989 (2 percentage points less than the rise for food), medical costs rose 7.7 percent, and clothing 2.8 percent.

During the first 6 years of the 1980's, the increase in the CPI for food was lower than the increase for all items—with the yearly averages 4.8 percent and 6.8 percent. During the last 4 years of the decade, the situation was reversed, with the food index increasing an average of 4.3 percent annually and the all-items index 3.6 percent.

Farm Value Share Unchanged

The farm value share of food prices was stable in 1989, Dunham says, because the increase in farm value matched the rise in

retail prices. This contrasts with most other years in the 1980's, when abundant food supplies held down farm prices but rising food processing and distributing charges boosted retail prices. The farm value share fell from 37 percent in 1980 to 30 percent in 1987.

Farm value shares vary greatly among specific foods, depending on the cost of production and amount of processing. Farm value shares in 1989 included 65 percent for eggs, 58 percent for Choice beef, 55 percent for broilers, 46 percent for milk, 40 percent for frozen orange juice concentrate, 39 percent for sugar, 26 percent for peanut butter, 25 percent for fresh potatoes, 16 percent for canned peas, 8 percent for bread, and 6 percent for cornflakes.

Eggs Lead Price Increases

Retail prices in all principal food categories went up in 1989. Eggs were up 26.6 percent, fresh vegetables 10.7 percent, poultry 9.9 percent, cereals and bakery products 8.4 percent, fats and oils 7.2 percent, dairy products 6.6 percent, fresh fruit 6.6 percent, beef and veal 6.4 percent, sugar and sweets 4.7 percent, fish and seafood 4.5 percent, nonalcoholic beverages (coffee and soft drinks) 3.5 percent, and pork 0.6 percent.

The dairy product price rise was the largest since 1981, due mainly to continued strong demand. Cheese prices were up 7.7 percent and fresh milk prices 7.5 percent. Government stocks of surplus cheese and nonfat dry milk were low in 1989, Dunham points out.

The hike in fish and seafood prices was the smallest in 5 years, moderated by larger imports of haddock, cod, and canned tuna. Seafood consumption likely increased to more than 15 pounds per capita last year.

The rise in beef prices mainly reflected a smaller per capita supply. "Beef also has undergone product changes," Dunham says, "such as closer fat trim and more boneless cuts. These changes have stabilized demand and enhanced consumer willingness to pay higher prices." Beef and veal consumption on a retail weight basis was

Farm Value Share of the Food Dollar Varied Widely Among Food Items in 1989[1]

	Retail price	Farm value	Farm value share of retail price[2]
	dollars		*percent*
Animal products:			
Eggs, Grade A large, 1 doz.	1.00	0.65	65
Beef, Choice, 1 lb.	2.70	1.55	58
Chicken, broiler, 1 lb.	.93	.51	55
Milk, one-half gallon	1.27	.59	46
Pork, 1 lb.	1.83	.70	38
Cheese, natural cheddar, 1 lb.	3.20	1.20	38
Fruit and vegetables:			
Fresh—			
Lemons, 1 lb.	.92	.27	29
Potatoes, Northeast, 10 lbs.	3.06	.77	25
Grapefruit, 1 lb.	.52	.12	23
Oranges, California, 1 lb.	.56	.11	19
Apples, red delicious, 1 lb.	.69	.13	18
Lettuce, 1 lb.	.61	.10	17
Frozen—			
Orange juice concentrate, 12 fl. oz.	1.39	.56	40
Broccoli, cut, 1 lb.*	1.21	.25	21
Corn, 1 lb.*	1.07	.12	11
Peas, 1 lb.*	1.06	.12	11
Green beans, cut, 1 lb.*	1.09	.11	10
Canned and bottled—			
Apple juice, 64-oz. bottle*	1.36	.28	21
Apple sauce, 25-oz. jar*	.90	.17	19
Pears, No. 2 1/2 can*	1.14	.20	18
Peas, No. 303 can (17 oz.)*	.61	.10	16
Corn, No. 303 can (17 oz.)*	.51	.08	16
Peaches, cling, No. 2 1/2 can*	1.07	.17	16
Green beans, cut, No. 303 can*	.49	.06	12
Tomatoes, whole, No. 303 can*	.52	.05	10
Dried—			
Beans, 1 lb.*	.70	.30	43
Raisins, 15-oz. box*	1.30	.39	30
Crop products:			
Sugar, 1 lb.	.37	.15	39
Flour, wheat, 5 lbs.	1.22	.39	32
Shortening, 3 lbs.	2.79	.61	22
Margarine, 1 lb.	.82	.17	21
Rice, long grain, 1 lb.	.50	.10	19
Prepared food:			
Peanut butter, 1 lb.	1.81	.46	26
Pork and beans, No. 303 can*	.41	.09	22
Potato chips, 1 lb.*	1.93	.29	15
Chicken dinner, fried, frozen,, 11 oz.*	1.40	.18	13
Potatoes, french fried, frozen, 1 lb.	.75	.10	13
Bread, 1 lb.	.66	.06	8
Corn flakes, 18-oz. box*	1.56	.10	6

[1]January-June average for items with asterisk, annual average for other items. [2]Computed from unrounded data.

Retail Prices in All Principal Food Categories Went Up in 1989

	1988	1989
	percent change	
All food	4.1	5.8
Food at home	4.2	6.5
Meat	2.4	4.0
Beef and veal	5.5	6.4
Pork	-3.0	0.6
Poultry	7.2	9.9
Fish and seafood	5.8	4.5
Eggs	2.3	26.6
Dairy products	2.4	6.6
Fresh fruit	8.3	6.6
Fresh vegetables	6.3	10.7
Processed fruit, vegetables	7.9	6.3
Cereals and bakery products	6.4	8.4
Sugar and sweets	2.7	4.7
Fats and oils	4.6	7.2
Nonalcoholic beverages	0	3.5
Other prepared foods	3.7	6.4
Food away from home	4.1	4.6

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

70 pounds per capita in 1989, about 3.5 pounds less than in 1988.

Pork consumption dropped slightly in 1989 to 63 pounds per capita after a 4-pound increase the year before.

Chicken prices in grocery stores were boosted by major purchases by fast-food chains. Poultry consumption increased to nearly 86 pounds per person, 4.5 pounds more than in 1988.

The sharp rise in egg prices was primarily the result of a 4-percent drop in production in 1989, the economist says, adding that producers cut back because of losses in 1988 and increasing feed costs. Some of the price increase also reflects continued strong demand for eggs in processed form.

The prices of cereals and bakery products were affected by sharply higher costs of wheat, other food grains, corn sweeteners, and vegetable shortening following the 1988 drought.

The boost in fresh vegetable prices was paced by a 28.9-percent rise in the retail price of potatoes, after the dry weather cut production by 10 percent in 1988. "Also," Dunham says, "we have seen increased use of french fries by fast-food firms, more frozen potato products for microwaves, and larger U.S. exports."

Marketing Costs Rise

Three-fourths of the retail expenditures for food consists of marketing charges. In 1989, the marketing bill totaled $318 billion, $18 billion more than the previous year.

"About $9 billion of the $18-billion increase can be attributed to higher labor costs," Dunham says. Total food industry labor costs were about $147 billion in 1989.

At $35 billion, packaging costs were 8.5 percent of total consumer expenditures for farm food. Intercity transportation of foods cost $18 billion in 1989, and energy costs totaled $15.5 billion.

Total Food Spending Is Up

Food spending by families and individuals totaled $440 billion in 1989, 6 percent more than in 1988, mainly because of higher food prices.

Spending for food eaten at home totaled $276 billion in 1989. Since 1980, spending for food eaten away from home has doubled, while spending for food eaten at home has gone up 55 percent.

"Eating out increased as incomes rose and more women entered the work force," Dunham points out.

The share of food spending for away-from-home meals and snacks rose from 31.5 percent in 1980 to nearly 38 percent in 1988, then declined to 37 percent in 1989. Why the drop last year? Because consumers boosted their purchases of supermarket takeout foods and microwaveable items.

Food spending by families and individuals was 11.6 percent of total personal disposable income in 1989, slightly lower than in 1988. The percentage was 13.6 in 1980 and 17.6 in 1960.

"The percentage has declined over the years because personal income has risen more than food spending," Dunham says.

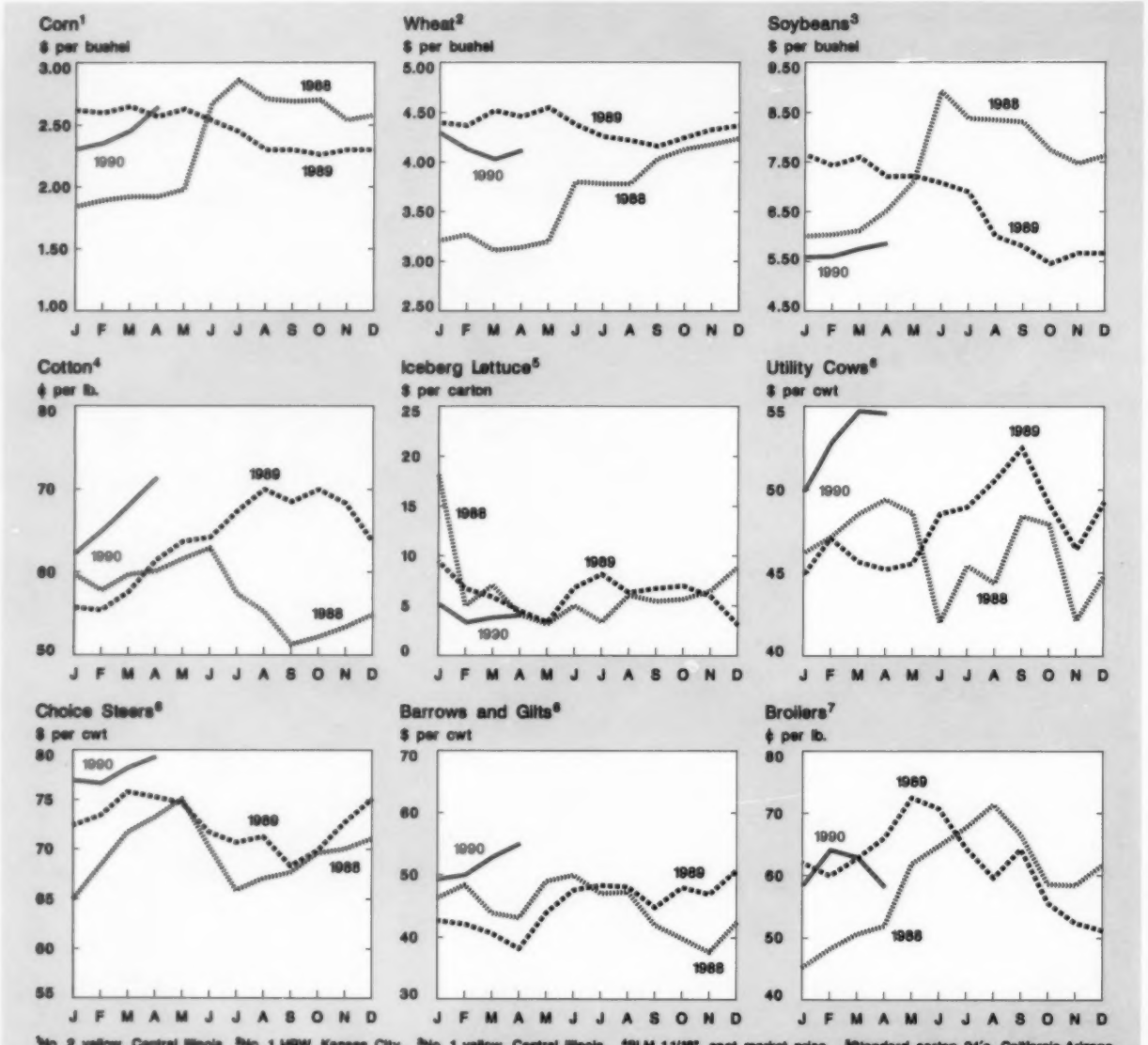
Lower income families spend considerably larger portions of their incomes on food. U.S. Department of Labor data for 1987 show that families with before-tax incomes of $5,000 to $10,000 spent 29 percent of their after-tax incomes on food, those with incomes of $15,000 to $20,000 spent 19 percent, and those with incomes of $30,000 to $40,000 spent 14 percent. □

[Based primarily on information provided by economist Denis Dunham of the Commodity Economics Division, Economic Research Service.]

FARMLINE TRENDS

Monthly Price Monitor

USDA's April 1990 inflation-adjusted index of farm prices increased 0.7% from March and was 2.0% above its year-earlier level. Corn reached $2.64 per bushel, the highest price since March 1989. Wheat rose 9¢ to $4.11 per bushel, while soybeans gained 11¢ to $5.85, their highest price since last August. Cotton, at 71.3¢ per pound, was at its highest since September 1987. Iceberg lettuce increased 23¢ to $3.98 per carton. Among meat animals, utility cows lost 15¢ per hundredweight to $54.52. Choice steers reached a record $79.27 per hundredweight. Barrows and gilts increased $2.14 per hundredweight to $54.91, the highest since August 1987. Broilers lost 4.7¢ to 58.1¢ per pound.



[1]No. 2 yellow, Central Illinois. [2]No. 1 HRW, Kansas City. [3]No. 1 yellow, Central Illinois. [4]SLM 1-1/16", spot market price. [5]Standard carton 24's, California-Arizona. [6]Omaha. [7]Wholesale, New York. All prices shown are monthly averages.

Leading Export States

Ranked by Value of Agricultural Exports[1]

	1st	2nd	3rd	4th	5th	6th	7th	8th
Fiscal 1988								
All ag product exports[2] U.S. total: $35.38 billion	California $3.39 bil.	Iowa $2.86 bil.	Illinois $2.63 bil.	Kansas $2.33 bil.	Texas $2.25 bil.	Nebraska $2.12 bil.	Minnesota $1.80 bil.	Indiana $1.38 bil.
Fiscal 1989								
All ag product exports[2] U.S. total: $39.65 billion	California $3.56 bil.	Nebraska $2.98 bil.	Iowa $2.98 bil.	Kansas $2.85 bil.	Texas $2.64 bil.	Illinois $2.64 bil.	Minnesota $1.76 bil.	Indiana $1.42 bil.
Feed grain & product exports U.S. total: $8.35 billion	Nebraska $1.45 bil.	Iowa $1.41 bil.	Illinois $1.11 bil.	Kansas $656 mil.	Indiana $650 mil.	Minnesota $576 mil.	Texas $416 mil.	Ohio $400 mil.
Wheat & product exports U.S. total: $6.29 billion	Kansas $1.03 bil.	Washington $623 mil.	Oklahoma $549 mil.	North Dakota $437 mil.	Idaho $358 mil.	Texas $286 mil.	Oregon $271 mil.	Colorado $260 mil.
Soybean & product exports U.S. total: $5.77 billion	Iowa $936 mil.	Illinois $876 mil.	Minnesota $465 mil.	Indiana $431 mil.	Missouri $418 mil.	Ohio $372 mil.	Arkansas $310 mil.	Nebraska $264 mil.
Live animal & meat exports[3] U.S. total: $2.83 billion	Kansas $389 mil.	Nebraska $386 mil.	Texas $363 mil.	Iowa $236 mil.	Kentucky $217 mil.	Colorado $146 mil.	Illinois $117 mil.	California $97 mil.
Cotton & linter exports U.S. total: $2.06 billion	Texas $706 mil.	California $378 mil.	Mississippi $244 mil.	Arizona $148 mil.	Arkansas $140 mil.	Louisiana $127 mil.	Tennessee $78 mil.	Alabama $51 mil.
Fruit & preparation exports U.S. total: $1.80 billion	California $912 mil.	Florida $403 mil.	Washington $160 mil.	Oregon $56 mil.	Michigan $52 mil.	Arizona $42 mil.	Texas $35 mil.	New York $30 mil.
Hide & skin exports U.S. total: $1.66 billion	Kansas $300 mil.	Nebraska $285 mil.	Texas $268 mil.	Colorado $109 mil.	Iowa $95 mil.	Wisconsin $63 mil.	Illinois $63 mil.	California $60 mil.
Vegetable & preparation exports U.S. total: $1.55 billion	California $715 mil.	Washington $160 mil.	Idaho $74 mil.	Wisconsin $72 mil.	Oregon $69 mil.	Michigan $56 mil.	Minnesota $54 mil.	Florida $52 mil.
Unmanufactured tobacco exports U.S. total: $1.27 billion	North Carolina $540 mil.	Kentucky $278 mil.	South Carolina $98 mil.	Virginia $94 mil.	Georgia $84 mil.	Tennessee $76 mil.	Connecticut $34 mil.	Florida $17 mil.
Feed & fodder exports U.S. total: $1.06 billion	Iowa $108 mil.	Minnesota $93 mil.	Nebraska $89 mil.	Illinois $88 mil.	Florida $79 mil.	California $59 mil.	Kansas $49 mil.	North Dakota $49 mil.
Rice exports U.S. total: $955 million	Arkansas $415 mil.	Texas $156 mil.	Louisiana $144 mil.	California $121 mil.	Mississippi $91 mil.	Missouri $28 mil.		
Poultry & product exports U.S. total: $728 million	Arkansas $95 mil.	Georgia $87 mil.	Alabama $66 mil.	North Carolina $65 mil.	Indiana $48 mil.	California $48 mil.	Mississippi $39 mil.	Texas $36 mil.
Tree nut exports U.S. total: $689 million	California $660 mil.	Hawaii $11 mil.	Oregon $7 mil.	Georgia $4 mil.	Texas $2 mil.	Oklahoma $2 mil.	New Mexico $1 mil.	Louisiana $1 mil.

[1]State origins of exports are not monitored as products move into export channels. The above statistics are estimates based primarily on each state's contribution to U.S. production or marketings of individual commodities during the fiscal year (fiscal 1989: Oct. 1, 1988-Sept. 30, 1989). Stock levels within states, estimates of how much feed goes to livestock, and other available data are used to adjust these figures. [2]Includes commodities not listed in this table. [3]Includes breed and race horses, excludes poultry.

Data were provided by economist Steve Milmoe of the Commodity Economics Division, Economic Research Service.

REPORTS IN THE NEWS

Households Boost Spending on Food

U.S. urban households increased their average spending on food from $18.94 per person per week in 1980 to $23.92 in 1986.

Nearly all of the 26.3-percent increase was in food prices, as the quantity of food purchased increased less than 1 percent.

Spending on food consumed at home rose from $12.82 to $14.90 per person per week, while spending on food consumed away from home increased from $6.11 to $9.03.

This report presents information on trends in household food expenditures for the period 1980 through 1986. Food price trends are also covered.

For 1985 and 1986, detailed tabulations are presented for 133 food categories by 10 household characteristics. The bulletin updates similar publications covering 1980-81 and 1982-84.

The data are from the Continuing Consumer Expenditure Diary Surveys by the Bureau of Labor Statistics of the U.S. Department of Labor.

The information in the report can be used to determine similarities and disparities in spending habits of households according to size, race, income, geographic area, and other factors.

The data can be useful in assessing market conditions, product distribution patterns, buying habits, and living conditions.

Thirteen new tables have been added to this publication to provide annual information on weekly per person food expenditure levels, food expenditure indices, and quantity indices for 1980-86. Another new table compares food spending in urban and rural households for 1984-86.

Food Spending in American Households, 1980-86 by David M. Smallwood. Published March 1990; 104 pages; $11 ($13.75 to non-U.S. addresses).

Marketing Orders Gain Larger Role

Federal marketing orders for horticultural crops enable growers to collectively regulate certain marketing activities.

The farm value of fruit, vegetable, nut, and specialty crops covered by Federal marketing orders totals about $4.6 billion annually.

This report explains why there is a federal marketing order program for horticultural crops, its development and operation, and its impact on market participants.

The report explains how marketing agreements and orders are created and administered. It also discusses changes that have occurred in the number, type, and industry structure of crops with marketing orders.

It details the effects of the regulations on growers, input suppliers, food processors, and consumers, in terms of changes in farm prices and revenues, marketing margins, input use, output, market utilization, retail prices, and consumer expenditures.

The author of the report notes that one intent of marketing orders is to increase sales by increasing buyer awareness of the product, developing more desirable products, and reducing marketing costs. Many marketing orders have regulations for funding promotion and research and establishing package, container, grade, and size requirements.

A few orders control the volume of produce entering certain markets and are intended to even out supplies and prices over time. These regulations can restrict sales of high-quality produce to the fresh-use market and boost farm prices for a given quantity. However, production increases stimulated by the higher prices subsequently reduce prices, the author says.

Federal Marketing Orders for Fruits, Vegetables, Nuts, and Specialty Crops by Nicholas J. Powers. Published March 1990; 40 pages; $8 ($10 to non-U.S. addresses).

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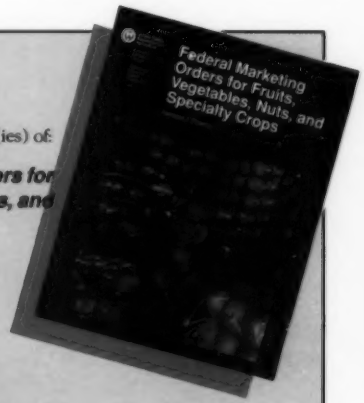

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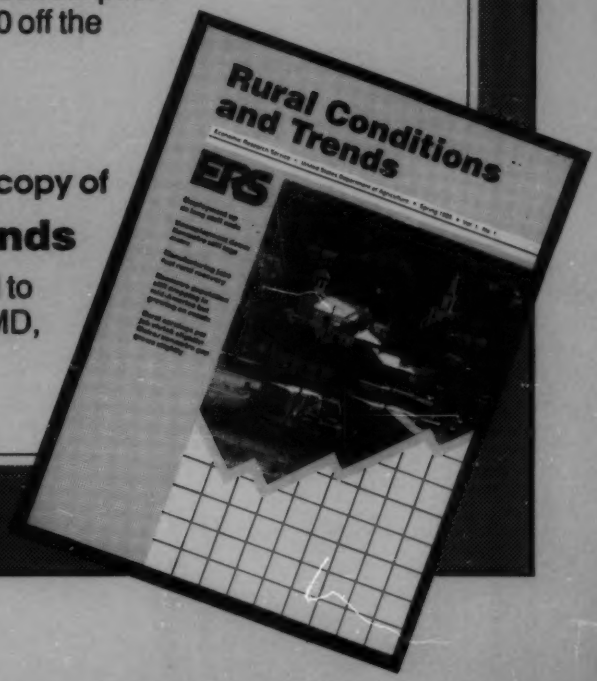

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